Noyes (I. P.)

METEOROLOGY.

THE WEATHER MAP AND THE OFFICIAL WEATHER INDICATIONS.

BY ISAAC P. NOYES.

Occasionally we hear the remark—"the Signal Office was way off in their weather predictions yesterday"—"They have not been doing well for the past two or three days." The weather, like many other things is irregular. At times it is almost like clock-work, and may be very well defined for even three or four days in advance; then comes a change. The relations of "High" and "Low" are such that it is more difficult to tell what the weather will be twenty-four hours in advance than at other times to tell what it will be for three or four days in advance. The elements which go to make up our weather system do not operate in regular grooves, but on the contrary are ever on the alert for the best opportunity. Heat and cold vie with each other for the mastership, and "low" is ever seeking the most favorable localities to advance to, and is all the while being thwarted in its course and check-mated by "high." In this department of nature as in all other departments, even in affairs of men, as in politics, the great end is after all, more or less influenced by compromise. Nature in this respect, often sets us a wise example. Not that all our actions should be governed by compromise, yet a judicious compromise is often times the part of wisdom.

May 27th to 31st, inclusive, well illustrates the point in question and reveals some of the difficulties that the Weather Bureau labors under. When a statement is made by this office and the same is not fulfilled the weather-map of the succeeding day will reveal the cause and a cause that any fair minded and intelligent person will readily comprehend and make allowance for. The weather map reveals everything and conceals nothing. May 27th the new "low" was in the northwest, "high" in the east, both moving toward the orient. The appearance then was that on account of the situation of "high," "low" would be deflected to the north and that the weather for this locality for the next two or three days would be warm and pleasant but not hot. On the 28th the main lines of "high" had passed off and left the coast apparently clear for "low" to advance without interruption, and the indications were that the advanced lines of "low" would be here on the 29th, passing this locality from the 29th to the 30th. It looked bad for Decoration Day. But "high" after all was not so fast about getting *entirely* out of the way, as it lingered and the rear-guard retarded the advance of "low." For the next twenty-four hours "low" made very little progress and what little advance was made was more to the southward than the eastward; yet we were all the while on the look-out for it and expecting it every hour.

On the 30th the situation of "high" and "low" was not relatively changed. Both had worked a little more to the southward. "Low" was still held at bay, but ready to advance toward Washington at short notice.

At 7 A. M. on the morning of the 31st the old "high" had disappeared off the coast. A new "high" was faintly indicated in the northwest. "Low" by this time had been crowded away down into Texas, Indian Territory, Arkansas and Louisiana, liable at any moment from this new position to advance and create what is generally termed a northeast storm. On the afternoon of the 31st this old "low," which had been so long expected finally reached here.

June 1st a supplement to this "low" which had been separated from the main body came marching on. June 2d the coast was comparatively clear again, only a little new "low" in the northwest, which it was not expected would disturb the conditions of this locality; but before midnight its course was such that the indications for the morning of the 3rd of June, were quite different from that of the afternoon of the 2d.

It may be asked if there is no way of ascertaining in advance the course these storm centers will take or the speed at which they will travel across the country. None that we have thus far been able to discover. March 25th and 26th "low" went from the base of the Rocky Mountains to the Atlantic coast in thirty-two hours; on this occasion we see that it took five days for about the same distance.

The indications of the Weather Bureau prove this uncertainty of direction and speed, for they would be most unwise not to do the best they could. The weather map of each succeeding day is a proof of their wisdom and integrity. Let the weather map be well understood, and what are now termed "mistakes" will be revealed to be the best information that human wisdom could devise.

In years to come when the world has comprehended the usefulness of the weather map, and comes to understand the movements of "high" and "low," and becomes weather prophets for themselves, it will be amusing to contrast the writings of to-day, which plead for and defend the wisdom daily revealed on these maps, with the childish comments upon the weather, and the absurd attempts at guessing what the weather will be months and weeks in advance. I have pleaded for intelligence—for the intelligent people of the world to learn something about weather—about it as it stands to-day and as revealed on these wonderful maps; but hardly a day passes but what the most absurd notions in regard to the weather appears in prominent papers, and reveals the fact that many of the most intelligent people in the world are content to trust in sensational prophecies of the weather by those who have not contributed one advanced idea in regard to the changes which go to make up our weather system.

The recent appearance of the comet reveals this fact most forcibly. The peculiar cool weather of June is "all owing to the comet." So they attempt to tell us. Had it been very warm these same parties would have said that it was "all owing to the comet;" as people in different localities on the same evening credit the clear or cloudy sky to the moon. It would seem that intelligent people should rise above such incongruities. Wisdom it would seem should inspire confidence, but instead ignorance seems to carry the day, at least in this department of the weather. If one will consult the weather map for the month of June they will see that "Low" most of the time passed over the country on a medium low line of latitude. The course of the majority of these "lows" or storm centres being from the northwest passing east on a line gradually working to the southward, even going as far south as Cape Hatteras and then along the coast to the northeast section of the country. Occasionally, however, one or two would keep on a high line. When they did so it was warm.

These "lows" were so peculiar, so variable that it was most difficult to predict the result. The sudden changes necessitated variable "indications." For example it often happened that the evening paper would prepare the public for the next day to expect a certain kind of weather, when the change in only twelve hours would be such as to cause an "Indication" for the day to be quite the reverse. Then as on the 27th, 28th and 29th of June the confines of the area of "low" hovered about the locality of Washington. The storm centre had really passed and "indications" were published in accortance therewith. But these is no knowing what to expect from what may be termed the "posterior low,"* especially when "low" is on a high line, when the tendency is to create intensity of heat, or as it were develope local sub-"lows." Where these "lows" will develope it is beyond the power of man to know. We know that they will develope somewhere within an area of three to five hundred miles—such things in nature being on a large scale—but where will the objective point or point of concentration be, that is a question that I am thinking will ever defy the perception of man to find out in advance of the local demonstrations as revealed to the locality by that peculiar effect of "closeness" in the atmosphere which precedes the storm.

As before stated in these papers, nothing better illustrates the course of "low" than to pour some water upon a slightly inclined plane and note the effect. Of course we know beforehand that it will take a certain general direction. But just note the course it takes how it circumvents spots, taking a zigzag course and coming together again, leaving certain spots dry, others wet, and never twice a alike. So with these "lows" and especially these "posterior lows" travel. To undertake to say just where local thunder storms or tornadoes will take place is most absurd. We know that they must take place somewhere within the general limits of "low" or the track of "low." But who will map out the lines beforehand? As well may we attempt during a thunder storm to tell the exact places where the lightning will strike. We know that lightning is very apt to strike somewhere during a thunderstorm, but to pretend to be able to locate the spot or to request another to so is most absurd. Always when a storm centre is passing or has passed, we are liable, according to the season of the year to have cer-

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*** In the future in these papers I will use the following terms to indicate the different phases of the storm centre. The "anterior low" to indicate that which precedes the centre proper ; the "posterior low" to indicate that portion following the centre.**

tain effects which we term thunder storms, tornadoes, etc., but to locate them exactly or to say that they will positively occur seems most absurd to prophesy. Yet with all this intelligence and undeniable facts people even suggest and seem to believe that the sensational weather prophets must have some knowledge, some secrets of the weather patent to themselves which have not as yet been discovered even by the Weather Bureau, and many seem to have the idea that the Weather Bureau is well enough in its way for daily indications, but that the "weather prophet" system is better for forecasting the weather weeks and months in advance. They would, as it were, make a compromise between the two. Such remarks only prove ignorance of the subject on the part of those who make them.

In this connection it must be borne in mind that the daily "indications" is only a part of the work of the Weather Bureau. The main work, whether realized or not, is to gain a knowledge of the meteorology of the world, and only through such efforts have we gained our present knowledge, in comparison with which all the knowledge of the "great weather prophets" of the world is as nothing and mere boy's play. Instead of the "prophet" system being superior to that of the Weather Bureau, it is in self impractical, unscientific and worthless, for the reason that there is no dependence in the idea that the weather periodically repeats itself. The changes are endless, and there are so many powers and counter-powers at work, for them all to work together to produce results twice alike is absurd and unwarranted the by facts by the best authority accumulated in this department of science.

The friends of one of the "weather prophets" claim that he can tell what the weather will be for a year in advance, even to the month and day. Let any intelligent person consult the almanac of this "prophet" for 1881 and note the prophecies for the first half of the year and compare them with what has actually taken place. For the month of June nothing could be more reversed. Seeing, however, that the month of May was prematurely warm he issues another statement quite the reverse of his first—evidently founding it upon the idea that premature heat at this time of the year will be followed by cool rather than warm weather. All of these attempts, however, were of no practical value or any nearer the mark than any person could do who knows about what kind of weather is most likely to occur during the different months of the year. According to this man we were to have a fearful storm throughout the west and east on the 20th of June, but the map for the day previous was clear as to the west, with only a probability of a local thunder storm or two in the east. But then it does not seem to matter how far from the mark this man comes; "great things" are claimed for him. Claims, it would seem, that the intelligent people of the world would have little respect for. The only reason that there is respect for such prophecies lies in the simple fact of want of knowledge of the weather system. Let this subject be understood as well as the other sciences of the world and we will have an entirely different order of things in this department. We will have a more complete weather system. As for "weather prophets" they will all be at a discount.

The future will demand more stations, especially throughout the west. The result of this will be better daily reports, whereby better and more advanced weather indications may be given to the country. The more we advance in this direction the more satisfaction will we derive from the system as a whole. Let the intelligent world once see and fully realize this and they will do all in their power to advance the interests of a worthy Bureau which at present seems to receive little favor from them.

Attention paid to error is detrimental to truth and honesty, while attention and support to that which is true advances truth and honesty and helps to build up the whole moral character of the world. Advances the human race and establishes a broad foundation for it whereby it may the more successfully contend against that which is false.

WASHINGTON, D. C., July 4, 1881.